


Transformer protection class

The protection class is a construction characteristic of a safety device providing protection against electric shock. Protection classes are as follows:

Protection class I
All accessible metal parts of the transformer are separated from live parts by means of the basic insulation. In addition, all accessible conductive metal parts of the transformer must be connected via the ground terminal to a protective conductor (forming part of the fixed wiring of the installation electrical system).
All accessible metal parts are separated from live parts by a primary insulation.
Moreover, the transformer is equipped with an earth terminal connected to the metal parts. This terminal can be connected to the protective conductor of the fixed wiring of the installation to guarantee safety of the primary insulation in the case of faults.

Protection class II
All accessible metal parts of the transformer are separated from live parts by means of double or reinforced insulation.
The insulation between the primary circuit and the core and between the secondary circuit and the core must be of the double or reinforced type to guarantee that all accessible parts of the transformer are separated from live parts. This transformer type is supplied without an earth terminal.

Protection class III
Protection against direct and indirect contact is based on a safety extra-low voltage power supply (SELV) in which the maximum voltages generated are 50VAC and 120VDC. In this case the transformer is classified as a safety transformer and it must be constructed without an earth terminal.